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10/634,856	08/06/2003	Satoshi Hirosawa	066409-224	9153

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EXAMINER
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WYSZOMIERSKI, GEORGE P

ART UNIT	PAPER NUMBER
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1742

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/634,856  
Filing Date: August 06, 2003  
Appellant(s): HIROSAWA ET AL.

**MAILED**  
MAY 26 2006  
**GROUP 1700**

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Richard H. Tushin  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed April 12, 2006 appealing from the Office action mailed July 12, 2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,597,938	MATSUURA et al.	7-1986
4,773,950	FUJIMURA et al.	9-1988
4,792,368	SAGAWA et al.	12-1988

5,041,172

TOKUNAGA et al.

8-1991

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

**A)            *Claims 1, 2 and 4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimura et al. (U.S. Patent 4,773,950, "Fujimura").***

Table 3 of Fujimura discloses examples of magnetically anisotropic sintered magnets containing iron, boron, a rare earth element, and one or more of the "A" elements as defined in the claims on appeal. A number of these examples have  $iH_c$  and  $BH_{max}$  values within the ranges as defined in the claims. Additionally, column 4 of Fujimura indicates that many of the optional elements recited in instant claim 2 may be present in such magnets. While no specific example of the prior art contains all of the elements as presently recited, the overlap in composition between the claims on appeal and the Fujimura disclosure creates a prima facie case of obviousness of the presently claimed invention; compare *In re Malagari* (182 USPQ 549). One of ordinary skill in the art would have arrived at the contents of the claimed magnets by optimizing the amounts of the elements as disclosed by Fujimura, because Fujimura discloses the utility of compositions over the entire range disclosed therein.

**B)            *Claims 3 and 5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimura et al., as above, in view of either Matsuura et al. (U.S. Patent 4,597,938, "Matsuura") or Sagawa et al. (U.S. Patent 4,792,368, "Sagawa").***

The Fujimura magnets, discussed supra, do not contain cobalt, i.e. they do not specifically recite the presently claimed limitation of “less than 10% Co”. However,

a) The claims on appeal recite “less than” a certain percentage of cobalt.

Therefore, the examiner’s position is that these claims do not require cobalt to be present in the claimed products, i.e. the claims encompass the entire range from 0% to 10% of cobalt.

b) Both Matsuura and Sagawa disclose sintered magnets similar to those of Fujimura, and which also contain cobalt. According to Matsuura column 2, the cobalt raises the Curie temperature of the magnet, and according to Sagawa column 8, the cobalt gives the magnets “better resistance against temperature dependency”. These are the same features as desired by Applicant, as indicated at page 8, lines 12-14 of the present specification. The teachings of Matsuura or Sagawa would have motivated one of ordinary skill in the art, desirous of such properties, to incorporate cobalt into the magnets disclosed by Fujimura.

**C)        *Claims 3 and 5 stand rejected under 35 U.S.C. 103(a) as being unpatentable Tokunaga et al. (U.S. Patent 5,041,172, “Tokunaga”).***

Tokunaga discloses sintered magnets containing iron, boron, a rare earth element, cobalt, one or more of the “A” elements of the instant claims, and one or more of the optional elements of appealed claim 5. The highest iHc and BH<sub>max</sub> values in the prior art appear to occur when the amount of cobalt is within the presently claimed range (see Tables 2 and 3 of Tokunaga), and numerous compositions set forth in those

Tables have values for these properties within the ranges recited in the appealed claims. While no specific example of the prior art contains all of the elements as presently recited, the overlap in composition between the appealed claims and the disclosure of Tokunaga creates a prima facie case of obviousness of the presently claimed invention; compare *In re Malagari* (182 USPQ 549). One of ordinary skill in the art would have arrived at the contents of the presently claimed magnets by optimizing the amounts of the elements as disclosed by Tokunaga, because the prior art reference discloses the utility of magnet compositions over the entire range disclosed therein.

#### **(10) Response to Argument**

A) **Fujimura and claims 1, 2 and 4--** On page 6 of the Brief, Appellant points out that the examples disclosed in Table 3 of Fujimura do not contain 9-18% B as presently claimed, and/or that many of the prior art examples contain Dy, which, according to Appellant "is not necessary to achieve the results of the present invention." While Appellant's statements are correct, this does not confer patentability upon the claims because the tables of Fujimura denote merely exemplary embodiments of the prior art. Prior art patents should not be read as limited to exemplary embodiments but rather as relevant to a disclosure of all that they would convey to one of ordinary skill in the art; compare *In re Heck* (216 USPQ 1038, Fed.Cir. 1983). In the Fujimura patent, the broadly disclosed range of 4-20% B includes the presently claimed range of 9-18%. Most importantly, Appellant has not shown that an amount of boron in the presently claimed range results in any patentable distinction from the prior art which, as stated

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above, may contain 4-20% B, includes many examples just outside the claimed range at 8% B, and also includes examples at 10% B (see Fujimura Table 2, examples 15-17), albeit without the additional elements as presently claimed. Finally, while Dy may not be necessary in the present invention, at least appealed claim 4 specifically allows for "less than 2.5% of an element selected from the group consisting of Dy and Tb" to be present, and this amount of Dy is present in the majority of the Fujimura examples. Therefore, the rejection of claims 1, 2 and 4 based on Fujimura is believed to be proper.

**B) Fujimura in view of Matsuura or Sagawa and claims 3 and 5--** On page 8 of the Brief, Appellant asserts that combining the disclosure of cobalt in Matsuura or Sagawa with the teachings of Fujimura is improper because Fujimura specifically avoids the use of cobalt, with reference to Fujimura column 1. In response, it should be noted that none of the claims on appeal actually require cobalt to be present, i.e. claims 3 and 5 recite "less than 10% Co", which includes 0%. With regard to Fujimura column 1, the examiner respectfully submits that Appellant is misreading the prior art disclosure. Fujimura column 1, lines 20-40 indicates some disadvantages of prior art magnets containing high amounts of cobalt, such as 20-30% or 50-65%, and suggests it would be preferable to make magnets where "one does not substantially rely upon inexpensive cobalt." This is entirely consistent with both the smaller amounts of cobalt employed in many of the examples of Matsuura and Sagawa, and with the presently claimed limitation of "less than 10%" cobalt. Therefore, the rejection of claims 3 and 5 based on the combination of Fujimura with either Matsuura or Sagawa is believed to be proper.

**C) Tokunaga and claims 3 and 5--** Appellant argues that the examples in Tables 2 and 3 of Tokunaga are not directed to alloys having the high boron contents and element inclusions as defined in the claims on appeal, and that the ranges of the appealed claims are not suggested or obtainable by optimizing the elements as disclosed by Tokunaga. With respect to boron content, the examiner notes that Tokunaga column 3, line 64 indicates that the preferred amount of boron in the prior art is 0.06-0.12 (6-12%), which overlaps the presently claimed amount of 9-18%. With regard to additional element inclusions, the examiner notes that Tokunaga column 4, lines 3-17 indicate that all of the presently claimed additional elements significantly improve magnetic properties, with Al, Si and Nb being among those particularly pointed out as effective for remarkably increasing coercivity. Tokunaga also indicates that the preferred range for these elements in total is 0.005-0.02 (0.5-2.0%), which overlaps the total amount recited for these elements in the appealed claims. In this respect, it is noted that none of the elements recited in lines 13-16 of appealed claim 5 are required to be present, i.e. they are all recited as being present in amounts "less than" a certain percentage. Even if present in small amounts, though, the total range would still overlap the total as disclosed by Tokunaga. Thus, the rejection of claims 3 and 5 based on Tokunaga is believed to be proper.

For at least the above reasons, claims 1-5 are believed to have been properly rejected over the prior art of record, and affirmation thereof is solicited.



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**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.


For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

GPW

  
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